

CLAIMS

- 5 1. A method of modulating the ripening or tissue senescence process in plants of the genus *Musa* comprising inserting into plant material at least one polynucleotide sequence selected from the sequences depicted as SEQ ID Nos 1 -57, regenerating said plant material and selecting from the transformed regenerants, plants with modulated ripening or tissue senescence characteristics.
- 10 2. A method according to claim 1 wherein the polynucleotide is obtained from the cDNA library having the NCIMB Accession Number 40814.
- 15 3. A method of modulating the ripening or tissue senescence process in plants of the genus *Musa* comprising inserting into plant material at least one polynucleotide sequence or a fragment thereof, obtainable by hybridisation, from the cDNA library having the NCIMB Accession Number 40814, by the use of at least one of the sequences depicted as SEQ ID Nos 1-57 as oligonucleotide probes, said hybridisation being conducted at a temperature from 60°C to 65°C in 0.3 strength citrate buffered saline containing 0.1% SDS followed by rinsing at the same temperature with 0.3 strength citrate buffered saline containing 0.1% SDS, regenerating said plant material and selecting from the transformed regenerants, plants with modulated ripening or tissue senescence characteristics.
- 20 4. A method according to claim 1 or 2 or 3, characterised in that the said polynucleotide modulates the production of pectate lyase.
- 25 5. A method according to claim 4 in which the polynucleotide sequence comprises at least one of the sequences depicted in the sequence listings as SEQ ID Nos. 13-18.
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6. A method according to any preceding claim wherein the plant material is transformed using the *Agrobacterium*, microparticle bombardment, fibre mediated or direct insertion method.

5 7. Plants, their progeny and seed and material obtained from said plants, produced according to a method as claimed in claims 1 to 6.

8. A vector functional in plants comprising a promoter region which is operable in plant cells, a polynucleotide sequence defined in claims 1 to 3 and a transcription
10 termination sequence.

9. A vector according to claim 8 wherein the promoter is constitutive, developmentally regulated or switchable.

10. A vector according to claim 9 wherein the promoter is tissue specific or organ
15 specific.

11. A genetically modified banana produced via the method according to claims 1 to 6
having altered fruit characteristics when compared with a banana which is not
20 transformed with at least one of the polynucleotide sequences described in claims 1 to 3.

12. A method of controlling plant pathogens comprising the application of an anti-
pathogenic agent to plants, characterised in that plants to which the said agent is
25 applied are plants according to claim 7.

13. A polynucleotide associated with fruit ripening selected from SEQ ID Nos. 1-57.

14. A fruit of a plant of the genus *Musa* having a retarded ripening phenotype generated
30 by inserting into the genome of the said plant at least one of the polynucleotide(s) as claimed in claim 13.

15. A method, polynucleotide, plant, its progeny, seed and material obtained from said plants and a banana substantially as hereinbefore described with reference to the accompanying drawings and figures.